

GXR Major Specifications

Items		Specifications
Flash	Mode	Auto (flash fires when lighting is poor or subject is backlit), red-eye, on, slow sync, manual, off
	Range (built-in flash)	Refer to camera unit specifications.
	Flash compensation	± 2.0 EV in increments of 1/2EV or 1/3EV
	Manual flash amount	FULL, 1/1.4, 1/2, 1/2.8, 1/4, 1/5.6, 1/8, 1/11, 1/16, 1/22, 1/32, 1/64
Picture display		3.0" transparent LCD; approx. 920,000 pixels
Shooting mode		Auto, program shift, aperture priority, shutter priority, manual, scene (movie, portrait, sports, landscape, nightscape, skew correction), " My Settings"
Picture quality		Fine, Normal, RAW (DNG) ^{*1}
Storage		SD/SDHC memory card, internal memory (approx. 86 MB)
File size		Refer to camera unit specifications.
File format	Photographs	JPEG (Exif Ver. 2.21) ^{*2} , RAW (DNG)
	Movies	AVI ^{*3} (Open DML Motion JPEG compliant)
	Compression	JPEG baseline compliant (photographs and movies)
Other shooting options		Continuous shooting (continuous, M-Cont Plus); self-timer (shutter release delay of approx. 10 s or 2 s, or custom setting); interval timer (intervals of 5 s to 1 hour in increments of 5 s) ^{*4} color bracketing; B&W (TE); color space selection; noise reduction; histogram display; framing grid; depth-of-field indicator; tilt indicator; hot shoe
Other playback options		Auto image rotation (when camera unit attached); multi-frame playback; playback zoom (up to 16x); resize
Interface		USB 2.0 (High-Speed) Mini-B connector; Mass Storage ^{*5} ; AV output (NTSC), HDMI connector (Mini HDMI Type C)
Video signal format		NTSC, PAL
Power source		DB-90 rechargeable battery (3.6V)
Battery life		Refer to camera unit specifications.

Dimensions (W x H x D)	113.9 mm x 70.2 mm x 37.5 mm (excluding projections)
Weight	Camera body (excluding battery, memory card, neck strap, and connector cap): 160 g Battery, neck strap, and connector cap: 66 g
Tripod screw hole	1/4-20UNC
Operating temperature	0 °C to 40 °C
Date storage time	Approx. 1 week
Operating humidity	85% or less
Storage temperature	-20 °C to 60 °C

- *1 A JPEG file is also recorded (the JPEG file may be a fine or normal quality file with the same dimensions as the RAW file or a VGA file). RAW files use the standard DNG format promoted by Adobe Systems Incorporated
- *2 Compatible with the Design rule for Camera File system (DCF, a JEITA standard) and DPOF. Full compatibility with other devices is not guaranteed.
- *3 Audio: PCM 32 kHz, 16 bit monaural
- *4 Flash off.
- *5 Mass Storage is supported under Windows 2000, Windows XP, Windows Vista®, Windows® 7, and Mac OS 9.0-9.2.2, Mac OS X 10.1.2-10.6.4

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GXR Software

	Windows 7	Windows Vista	Windows XP	Windows 2000
1.DL-10	○	○	○	○
2.Irodio Photo & Video Studio	△ *1	○	○	○
3.Adobe Reader	x	○	○	○

- * To playback MP files and output still images from MP files on a Macintosh PC, please use the enclosed VM-1 Macintosh software for viewing MP files (compatible OS: Mac OS X 10.4-10.6.4).
- *1 There are limitations on some functions. For the latest version, please see [the PIXELA webpage](#).

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GXR System Requirements

	Windows
Operating system	Windows 2000 Professional Service Pack 4 Windows XP Home Edition Service Pack 3 / Professional Service Pack 3

	Windows Vista Service Pack 2 / Windows 7
CPU	Windows 2000 / XP: Pentium®III 500MHz or more, Windows Vista / Windows 7: Pentium®III 1GHz or more
Memory	Windows 2000 / Windows XP : 256MB or more Windows Vista / Windows 7 : 512MB or more
Available disk space on hard drive at installation time	160MB or more
Display Resolution	1024 x 768 dots or greater
Display Colors	65000 colors or greater
CD-ROM Drive	A CD-ROM drive compatible with the above-mentioned computer
USB Port	A USB port compatible with the above-mentioned computer

- * When the GXR is connected to a PC, only a USB connection can be used. Serial connection is not supported.
- * It is necessary for the above OS to be preinstalled and for the USB port to be standard equipment.
- * The 64-bit OS version is not supported.
- * The GXR is compatible with Mac OS 9.0 to 9.2.2 and Mac OS X 10.1.2 to 10.6.4 by mass storage connection.

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GR LENS A12 50 mm F2.5 MACRO - Major Specifications

Items		Specifications
Effective pixels		Approximately 12.3 million
Image sensor		23.6 mm x 15.7 mm CMOS (total pixels: approx. 12.9 million)
Lens	Focal length	33 mm (35 mm format equivalent: 50mm)
	Aperture (f-number)	f/2.5 - f/22 (ND filter used for apertures of f/22 in auto shooting mode)
	Focus range (from lens)	Normal shooting: Approx. 30 cm - infinity
		Macro shooting: Approx. 7 cm - infinity (maximum magnification 1/2x)
	Construction	9 elements in 8 groups (1 aspherical lens element with 2 surfaces)
	Filter size	40.5 mm
Zoom		4.0x digital zoom (3.6x for movies) 5.9x auto resize zoom (VGA)

Focus mode			Contrast AF-based multi and spot AF; MF; Snap; infinity (focus lock and AF-assist)
Shutter speed	Photographs		180 - 1/3200 s (upper and lower limits vary according to shooting and flash mode)
	Movies		1/30 - 1/2000 s
Exposure control	Metering		TTL-CCD metering in multi (256-segment), center-weighted, and spot modes with autoexposure lock
	Mode		Program AE, aperture priority AE, manual exposure, shutter priority AE, move target function
	Exposure Compensation		Manual (+4.0 to -4.0 EV in increments 1/3 EV or 1/2 EV), auto bracketing (-2 EV to +2 EV in increments 1/3 EV or 1/2 EV)
ISO sensitivity (Standard Output Sensitivity)			AUTO, AUTO-HI, ISO200/ISO400/ISO800/ISO1600/ISO3200
White balance			Auto / Multi-P AUTO / Outdoors / Cloudy / Incandescent Lamp / Fluorescent Lamp / Manual Settings / Detail; white balance Bracketing
Flash	Range (built-in flash)		Approx. 20 cm - 3.0 m (ISO auto)
Shooting mode			Auto / program shift / aperture priority / shutter priority / manual /scene (movie, portrait, sports, landscape, nightscape, skew correction) / "My Settings"
Continuous mode	Number of pictures shot in Continuous (Picture Size: RAW)		Noise Reduction off or on (Weak): 4 pictures Noise Reduction on (Strong): 3 pictures
	Number of pictures shot in M-Cont Plus (1 set)		HI (1280 x 854): 30 pictures (24 Frames/Sec) LO (4228 x 2848): 15 pictures (3 Frames/Sec)
Picture quality *1			FINE, NORMAL, RAW (DNG) *2
Image size (pixels)	Photographs	16:9	4288 x 2416, 3456 x 1944
		4:3	3776 x 2832, 3072 x 2304, 2592 x 1944, 2048 x 1536, 1280 x 960, 640 x 480
		3:2	4288 x 2848, 3456 x 2304
		1:1	2848 x 2848, 2304 x 2304
	Movies *3(24 Frames/Sec)		1280 x 720, 640 x 480, 320 x 240
File size (approx.)	RAW	16:9	NORMAL: 17,800 KB/frame, FINE: 19,515 KB/frame, VGA: 15,587 KB/frame

		4:3	NORMAL: 18,387 KB/frame, FINE: 20,157 KB/frame, VGA: 16,124 KB/frame
		3:2	NORMAL: 20,946 KB/frame, FINE: 22,967 KB/frame, VGA: 18,337 KB/frame
		1:1	NORMAL: 13,991 KB/frame, FINE: 15,333 KB/frame, VGA: 12,273 KB/frame
	L	16:9	NORMAL: 2,222 KB/frame, FINE: 3,816 KB/frame
		4:3	NORMAL: 2,315 KB/frame, FINE: 3,960 KB/frame
		3:2	NORMAL: 2,615 KB/frame, FINE: 4,493 KB/frame
		1:1	NORMAL: 1,761 KB/frame, FINE: 3,009 KB/frame
	M	16:9	NORMAL: 1,475 KB/frame, FINE: 2,509 KB/frame
		4:3	NORMAL: 1,574 KB/frame, FINE: 2,662 KB/frame
		3:2	NORMAL: 1,744 KB/frame, FINE: 2,968 KB/frame
		1:1	NORMAL: 1,186 KB/frame, FINE: 2,003 KB/frame
	5M	4:3	FINE: 2,287 KB/frame
	3M	4:3	FINE: 1,474 KB/frame
	1M	4:3	FINE: 812 KB/frame
	VGA	4:3	FINE: 197 KB/frame
Battery life			Based on CIPA standard, DB-90: approx. 320 shots ^{*4}
Dimensions (W x H x D)			Camera unit only: 68.7 mm x 57.9 mm x 71.3 mm (including the lens barrel; Excluding the connector) When mounted on the camera body: 113.9 mm x 70.2 mm x 77.1 mm (including the lens barrel)
Weight (approx.)			Camera unit only: 263 g (not including the lens cap or Connector cap) When mounted on the camera body: 423 g (not including the Battery, memory card, neck strap, connector cap, or lens cap)
Operating temperature			0 °C to 40 °C
Operating humidity			85% or less
Storage temperature			-20 °C to 60 °C

- ^{*1} The picture quality modes which can be set vary depending on the image size.

- *2 A JPEG file is also recorded (the JPEG file may be a FINE- or NORMAL-quality file with the same dimensions as the RAW file or a VGA file 640 × 480 pixels in size). RAW files use the standard DNG format promoted by Adobe Systems Incorporated.
- *3 When shooting movies of 1280×720 size, the use of an SD/SDHC memory card with an SD speed class of Class 6 or higher is recommended.
- *4 For reference only; actual number of shots varies greatly according to how camera is used. We recommend that you carry spare batteries when in use for extended periods. (Shooting capacity was measured using CIPA-standard parameters. These are only estimates; performance may vary depending on usage conditions.)

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GR LENS A12 50 mm F2.5 MACRO SD Memory Card Storage Capacity (Number of Images and Time)

[Still image mode]

Compression rate	Picture size	Internal	1GB	2GB	4GB	8GB	16GB	32GB
RAW* FINE	4288x2416	4	49	100	197	404	810	1625
	3776x2832	4	47	97	191	391	784	1573
	4288x2848	3	42	85	168	343	688	1380
	2848x2848	5	63	128	251	513	1029	2065
L FINE	4288x2416	21	235	476	935	1912	3830	7684
	3776x2832	20	227	462	907	1854	3715	7453
	4288x2848	18	200	407	799	1633	3272	6565
	2848x2848	27	299	608	1195	2442	4893	9815
M FINE	3456x1944	32	357	724	1419	2902	5814	11662
	3072x2304	30	337	683	1341	2741	5491	11014
	3456x2304	27	302	614	1206	2466	4941	9913
	2304x2304	41	447	903	1774	3627	7267	14578
5M FINE	2592x1944	34	373	758	1490	3045	6101	12238
3M FINE	2048x1536	53	581	1182	2321	4744	9503	19063
1M FINE	1280x960	96	1059	2118	4160	8505	17039	34181
VGA FINE	640x480	395	4316	8778	17237	35231	70579	141581

[Movie Mode]

Picture size	Internal	1GB	2GB	4GB	8GB	16GB	32GB
1280x720 (24frames/sec)	21 sec.	3 min. 49 sec.	7 min. 46 sec.	15 min. 58 sec.	31 min. 10 sec.	62 min. 26 sec.	125 min. 15 sec.
640x480 (24frames/sec)	1 min.	11 min. 2 sec.	22 min. 27 sec.	46 min. 10 sec.	90 min. 7 sec.	180 min. 32 sec.	362 min. 9 sec.
320x240 (24frames/sec)	2 min. 25 sec.	26 min. 24 sec.	53 min. 43 sec.	110 min. 27 sec.	215 min. 35 sec.	431 min. 52 sec.	866 min. 19 sec.

- * When RAW is selected, this is the compression rate for the simultaneously recorded copy.
- * For shooting capacity, the number of stillimages and movie time are estimates.
- * Movies may be up to 90 minutes in length or 4 GB in size.
- * The number of exposures remaining as shown on the picture display may differ from the actualnumber because image file size varies depending on the subject.
- * The shooting capacity for number of still images and movie recordingtime may vary depending on the capacity of the recording media (internal memory or SD memory card), the shooting conditions, and thetype and manufacturer of the SD memory card.
- * A high-speed memory card is recommended when shooting for long periods.
- * For othercompression rates please check the website.

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RICOH LENS S10 24-72 mm F2.5-4.4 VC - Major Specifications

Item		Specifications
Effective pixels		Approximately 10.0 million
Image sensor		1/1.7" CCD (total pixels: approx. 10.4 million)
Lens	Focal length	5.1 mm - 15.3 mm (35 mm format equivalent: 24-72 mm)
	Aperture (F-number)	f/2.5 - f/4.4 (T) (wide-open f value)
	Focus range (from the front of the lens)	Normal shooting: Approx. 30 cm to infinity
		Macro shooting: Approx. 1 cm to infinity (wide angle); Approx. 4 cm to infinity (telephoto); approx. 1 cm to infinity (zoom macro)
	Construction	11 elements in 7 groups (4 aspherical lens elements with 4 surfaces)
Zoom		3.0 x optical zoom; 4.0 x digital zoom; approx. 5.7 x auto resize zoom (VGA)
Focus mode		CCD-based multi and spot AF; MF; Snap; infinity (focus lock and AF-

			assist)
Camera shake correction function			Image sensor shift method image stabilizer
Shutter speed	Photographs		180 - 1/2000 s (upper and lower limits vary according to shooting and flash mode)
	Movies		1/30 - 1/2000 s
Exposure control	Metering		TTL-CCD metering in multi (256-segment), center-weighted, and spot modes with autoexposure lock
	Mode		Program AE, aperture priority AE, manual exposure, shutter priority AE, move target function
	Exposure compensation		Manual (+4.0 to -4.0 EV in increments 1/3 EV or 1/2 EV), auto bracketing (-2 EV to +2 EV in increments 1/3 EV or 1/2 EV)
ISO sensitivity (Standard Output Sensitivity)			Auto, Auto-Hi, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200
White balance			Auto / Multi-P AUTO / Outdoors / Cloudy / Incandescent Lamp / Fluorescent Lamp / Manual Settings / Detail; white balance Bracketing
Flash	Range (built-in flash)		Approx. 20 cm - 4.5 m (wide-angle), Approx. 15 cm -2.7 m (telephoto)
Shooting mode			Auto / program shift / aperture priority / shutter priority / manual /scene (movie, portrait, sports, landscape, nightscape, skew correction, zoom macro) / "My Settings"
Continuous mode	Number of pictures shot in Continuous (Picture Size: RAW)		Noise Reduction off: 5 pictures (under ISO800), 4 pictures (ISO800 and higher); Noise Reduction on (Weak or Strong): 4 pictures
	Number of pictures shot in M-Cont Plus (1 set)		HI (640 x 480) : 30 pictures (30 Frames/Sec) LO (3648 x 2736) : 15 pictures (1.6 Frames/Sec)
Picture quality *1			FINE, NORMAL, RAW (DNG) *2
Image size (pixels)	Photographs	16:9	3648 x 2048, 3264 x 1840
		4:3	3648 x 2736, 3264 x 2448, 2592 x 1944, 2048 x 1536, 1280 x 960, 640 x 480
		3:2	3648 x 2432, 3648 x 2176
		1:1	2736 x 2736, 2448 x 2448
	Movies (30 Frames/Sec)		640 x 480, 320 x 240
File size (approx.)	RAW	16:9	NORMAL: 12,923 KB/frame, FINE: 14,160 KB/frame,

			VGA: 11,347 KB/frame
		4:3	NORMAL: 17,202 KB/frame, FINE: 18,854 KB/frame, VGA: 15,096 KB/frame
		3:2	NORMAL: 15,311 KB/frame, FINE: 16,779 KB/frame, VGA: 13,439 KB/frame
		1:1	NORMAL: 12,956 KB/frame, FINE: 14,195 KB/frame, VGA: 11,377 KB/frame
	L	16:9	NORMAL: 1,630 KB/frame, FINE: 2,779 KB/frame
		4:3	NORMAL: 2,169 KB/frame, FINE: 3,704 KB/frame
		3:2	NORMAL: 1,930 KB/frame, FINE: 3,295 KB/frame
		1:1	NORMAL: 1,633 KB/frame, FINE: 2,784 KB/frame
	M	16:9	NORMAL: 1,329 KB/frame, FINE: 2,253 KB/frame
		4:3	NORMAL: 1,761 KB/frame, FINE: 2,990 KB/frame
		3:2	NORMAL: 1,567 KB/frame, FINE: 2,660 KB/frame
		1:1	NORMAL: 1,327 KB/frame, FINE: 2,248 KB/frame
	5M	4:3	FINE: 2,287 KB/frame
	3M	4:3	FINE: 1,474 KB/frame
	1M	4:3	FINE: 812 KB/frame
	VGA	4:3	FINE: 197 KB/frame
Battery life			Based on CIPA standard DB-90: approx. 410 shots) *3
Dimensions (W x H x D)			Camera unit only: 68.7 mm x 57.9 mm x 38.6 mm (excluding projections) When mounted on the camera body: 113.9 mm x 70.2 mm x 44.4 mm (excluding projections)

Weight (approx.)	Camera unit only: 161 g (not including the lens cap or connector cap) When mounted on the camera body: 325 g (not including the battery, memory card, neck strap, connector cap, or lens cap)
Operating temperature	0 °C to 40 °C
Operating humidity	85% or less
Storage temperature	-20 °C to 60 °C

- *1 The picture quality modes which can be set vary depending on the image size.
- *2 A JPEG file is also recorded (the JPEG file may be a FINE- or NORMAL-quality file with the same dimensions as the RAW file or a VGA file 640 × 480 pixels in size). RAW files use the standard DNG format promoted by Adobe Systems Incorporated.
- *3 For reference only; actual number of shots varies greatly according to how camera is used. We recommend that you carry spare batteries when in use for extended periods. (Shooting capacity was measured using CIPA-standard parameters. These are only estimates; performance may vary depending on usage conditions.)

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RICOH LENS S10 24-72 mm F2.5-4.4 VC SD Memory Card Storage Capacity (Number of Images and Time)

[Still image mode]

Compression rate	Picture size	Internal	1GB	2GB	4GB	8GB	16GB	32GB
RAW * FINE	3648x2048	6	68	138	272	556	1115	2237
	3648x2736	4	51	104	204	418	837	1680
	3648x2432	5	57	117	229	469	941	1888
	2736x2736	6	68	138	271	555	1113	2232
L FINE	3648x2048	29	323	653	1284	2624	5257	10546
	3648x2736	22	242	497	965	1973	3953	7930
	3648x2432	24	272	553	1087	2222	4452	8930
	2736x2736	29	323	653	1284	2624	5257	10546
M FINE	3264x1840	36	397	808	1588	3245	6502	13043
	3264x2448	27	300	608	1195	2442	4893	9815
	3264x2176	30	337	683	1341	2741	5491	11014
	2448x2448	36	400	808	1588	3245	6502	13043

5M FINE	2592x1944	34	373	758	1490	3045	6101	12238
3M FINE	2048x1536	53	581	1182	2321	4744	9503	19063
1M FINE	1280x960	96	1059	2118	4160	8505	17039	34181
VGA FINE	640x480	395	4316	8778	17237	35231	70579	141581

[Movie Mode]

Picture Size	Internal	1GB	2GB	4GB	8GB	16GB	32GB
640x480 (30frames/sec)	49sec.	8min. 55sec.	18min. 8sec.	37min. 18sec.	72min. 50sec.	145min. 54sec.	292min. 41sec.
320x240 (30frames/sec)	1min. 59sec.	21min. 39sec.	44min. 2sec.	90min. 33sec.	176min. 44sec.	354min. 3sec.	710min. 13sec.

- * When RAW is selected, this is the compression rate for the simultaneously recorded copy.
- * For shooting capacity, the number of stillimages and movie time are estimates.
- * Movies may be up to 90 minutes in length or 4 GB in size.
- * The number of exposures remaining as shown on the picture display may differ from the actualnumber because image file size varies depending on the subject.
- * The shooting capacity for number of still images and movie recordingtime may vary depending on the capacity of the recording media (internal memory or SD memory card), the shooting conditions, and thetype and manufacturer of the SD memory card.
- * A high-speed memory card is recommended when shooting for long periods.
- * For othercompression rates please check the website.

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RICOH LENS P10 28-300 mm F3.5-5.6 VC - Major Specifications

Item		Specifications
Effective pixels		Approximately 10 million
Image sensor		1/2.3-inch CMOS sensor (total pixels: approx. 10.60 million pixels)
Lens	Focal length	f=4.9-52.5 mm (35 mm equivalent: 28-300 mm)
	Aperture (F-number)	f/3.5 – f/5.6
	Focus range (from the front of the lens)	Normal shooting: Approx. 30 cm - infinity (wide-angle), approx. 1.5 m - infinity (telephoto)
	Macro shooting (from the front of the lens)	Approx. 1 cm - infinity (wide-angle), approx. 27 cm - infinity (telephoto), approx. 1 cm - infinity (zoom macro)

	Construction		10 elements in 7 groups (4 aspherical lens elements with 5 surfaces)
Zoom			10.7× optical zoom; 4.0× digital zoom (2.8x for movies, HD), approx. 5.7× auto resize zoom (VGA)
Focus mode			Multi AF; Spot AF; MF: Snap; ∞; Multi-trgt AF (AF auxiliary light and focus bracketing available)
Camera shake correction function			Image sensor shift method image stabilizer
Shutter speed	Photographs		1/2000 - 30 s (upper and lower limits vary according to shooting and flash mode)
	Movies		1/30 - 1/2000 s
Exposure control	Metering		Multi (256-segment), center-weighted, and spot modes (TTL metering with auto exposure lock)
	Mode		Program AE, aperture priority AE ^{*1} , manual exposure, shutter, priority AE, move target function
	Exposure compensation		Manual (+4.0 to -4.0 EV in increments 1/3 EV or 1/2 EV), auto bracketing (-2 EV to +2 EV in increments 1/3 EV or 1/2 EV)
ISO sensitivity (Standard Output Sensitivity)			Auto, Auto-Hi, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200
White balance			Auto / Multi-P AUTO / Outdoors / Cloudy / Incandescent Lamp 1 / Incandescent Lamp 2 / Fluorescent Lamp / Manual Settings / Detail; white balance Bracketing
Flash	Range (built-in flash)		Approx. 20 cm – 4.0 m (wide-angle), approx. 28 cm – 2.5 m (telephoto) (ISO AUTO)
Shooting mode			Auto / program shift / aperture priority ^{*1} / shutter priority / manual /scene (movie, portrait, sports, landscape, nightscape, skew correction, dynamic range double shot, zoom macro) / “My Settings”
Continuous mode	Number of pictures shot in Continuous (Picture Size: RAW)		Noise Reduction off: 5 pictures; Noise Reduction on weak, strong, or MAX: 4 pictures
	Number of pictures shot in M-Cont Plus (1 set)		Low (3648 × 2736): 15 pictures (5 frames/sec.), Hi (1728 × 1296): 26 pictures (30 frames/sec.)
	Number of pictures shot in Ultra-high-speed Cont (1 set)		Low (640 × 480): 120pictures (60 frames/sec.), Hi (640 × 480): 120 pictures (120frames/sec.)
Picture quality ^{*2}			FINE, NORMAL, RAW (DNG) ^{*3}
Image size	Photographs	16:9	3648 x 2048, 3264 x 1840

(pixels)		4:3	3648 x 2736, 3264 x 2448, 2592 x 1944, 2048 x 1536, 1280 x 960, 640 x 480
		3:2	3648 × 2432, 3264 × 2176
		1:1	2736 x 2736, 2448 x 2448
	Movies		1280 × 720, 640 × 480, 320 × 240
File size (approx.)	RAW	16:9	NORMAL: 12,923 KB/frame, FINE: 14,160 KB/frame, VGA: 11,347 KB/frame
		4:3	NORMAL: 17,202 KB/frame, FINE: 18,854 KB/frame, VGA: 15,096 KB/frame
		3:2	NORMAL: 15,311 KB/frame, FINE: 16,779 KB/frame, VGA: 13,439 KB/frame
		1:1	NORMAL: 12,956 KB/frame, FINE: 14,195 KB/frame, VGA: 11,377 KB/frame
	L	16:9	NORMAL: 1,630 KB/frame, FINE: 2,779 KB/frame
		4:3	NORMAL: 2,169 KB/frame, FINE: 3,704 KB/frame
		3:2	NORMAL: 1,930 KB/frame, FINE: 3,295 KB/frame
		1:1	NORMAL: 1,633 KB/frame, FINE: 2,784 KB/frame
	M	16:9	NORMAL: 1,329 KB/frame, FINE: 2,253 KB/frame
		4:3	NORMAL: 1,761 KB/frame, FINE: 2,990 KB/frame
		3:2	NORMAL: 1,567 KB/frame, FINE: 2,660 KB/frame
		1:1	NORMAL: 1,327 KB/frame, FINE: 2,248 KB/frame
	5M	4:3	FINE: 2,287 KB/frame
	3M	4:3	FINE: 1,474 KB/frame

	1M	4:3	FINE: 812 KB/frame
	VGA	4:3	FINE: 197 KB/frame
Battery life			Based on CIPA standard DB-90: approx. 440 shots) *4
Dimensions (W x H x D)	Camera unit only	68.7 mm × 57.9 mm × 44 mm (according to CIPA guidelines)	
	When mounted on the GXR body	113.9 mm × 70.2 mm × 49.8 mm (according to CIPA guidelines)	
Weight	Camera unit only	160 g (not including the lens cap or connector cap)	
	When mounted on the camera body	367 g (including battery, SD memory card, and lens cap)	
Operating temperature			0 °C to 40 °C
Operating humidity			85% or less
Storage temperature			-20 °C to 60 °C

- *1 ND filter used for aperture priority AE aperture priority mode.
- *2 The picture quality modes which can be set vary depending on the image size.
- *3 A JPEG file is also recorded (the JPEG file may be a FINE- or NORMAL-quality file with the same dimensions as the RAW file or a VGA file 640 × 480 pixels in size). RAW files use the standard DNG format promoted by Adobe Systems Incorporated.
- *4 For reference only; actual number of shots varies greatly according to how camera is used. We recommend that you carry spare batteries when in use for extended periods. (Shooting capacity was measured using CIPA-standard parameters. These are only estimates; performance may vary depending on usage conditions.)

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RICOH LENS P10 28-300 mm F3.5-5.6 VC SD Memory Card Storage Capacity (Number of Images and Time)

[Photographs]

Compression	Picture size(pixels)	Internal memory	1GB	2GB	4GB	8GB	16GB	32GB
RAW* FINE	3648x2048	6	67	137	270	551	1105	2217
	3648x2736	4	50	103	203	415	831	1688
	3648x2432	5	57	116	228	466	934	1874
	2736x2736	6	67	137	270	551	1105	2217
L	3648x2048	29	323	653	1284	2624	5257	10546

FINE	3648x2736	22	242	491	965	1973	3953	7930
	3648x2432	24	272	553	1087	2222	4452	8930
	2736x2736	29	323	653	1284	2624	5257	10546
M FINE	3264x1840	36	397	808	1588	3245	6502	13043
	3264x2448	27	300	608	1195	2442	4893	9815
	3264x2176	30	337	683	1341	2741	5491	11014
	2448x2448	36	400	808	1588	3245	6502	13043
5M FINE	2592x1944	34	373	758	1490	3045	6101	12238
3M FINE	2048x1536	53	581	1182	2321	4744	9503	19063
1M FINE	1280x960	96	1059	2118	4160	8505	17039	34181
VGA FINE	640x480	395	4316	8778	17237	35231	70579	141581

- * When [RAW] is selected, this is the setting used for the JPEG copy.

[Continuous Mode]

Continuous Mode	Image size(pixels)	Internal memory	1GB	2GB	4GB	8GB	16GB	32GB
M-Cont Plus (Low)	3648 × 2736	38	414	842	1653	3379	6769	13579
M-Cont Plus (High)	1728 × 1296	131	1438	2926	5746	11745	23530	47202
Speed Cont	640 × 480	692	7553	15359	30159	61643	123489	247716

[Movies]

Image size (pixels)	Internal memory	1GB	2GB	4GB	8GB	16GB	32GB
1280 × 720 (30frames/sec)	16sec.	3min. 3sec.	6min. 14sec.	12min. 14sec.	25min. 1sec.	50min. 7sec.	100min. 33sec.
640 × 480 (30frames/sec)	49sec.	8min. 55sec.	18min. 8sec.	35min. 38sec.	72min. 50sec.	145min. 54sec.	292min. 41sec.
320 × 240 (30frames/sec)	1min. 59sec.	21min. 39sec.	44min. 2sec.	86min. 28sec.	176min. 44sec.	354min. 3sec.	710min. 13sec.

- * The maximum uninterrupted recording size for a single movie is 4 GB. The maximum recording time is around 12 minutes at 1280 × 720 size, around 37 minutes at 640 × 480 size, and around 90 minutes at 320 × 240 size.
- * When 1280 x 720 size is set, using SD/SDHC memory cards with a speed class of 6 or more is recommended.

GR LENS A12 28mm F2.5 - Major Specifications

Item		Specifications
Effective pixels		Approximately 12.30 million
Image sensor		23.6×15.7mm CMOS sensor (total pixels: 12.90 millionl pixels)
Lens	Focal length	18.3mm (35 mm camera equivalent: 28 mm)
	Aperture (f-number)	f/2.5 – f/22 (ND filter used with apertures for exposure control when f/22 is displayed in auto shooting mode)
	Focus range	Approx. 20 cm - infinity (from the front of the lens)
	Construction	9 elements in 6 groups (2 aspherical lens elements with 2 surfaces)
	Filter diameter	40.5mm
Zoom	Digital zoom	4.0x (3.6x for movies)
	Auto resize zoom	Approx. 5.9x (V G A)
Focus Modes		Contrast AF-based multi and spot AF; MF; Snap; infinity (focus lock and AF-assist)
Shutter speed	Photographs	180 - 1/3200s (upper and lower limits vary according to shooting and flash mode)
	Movies	1/30 – 1/2000 s
Exposure control	Metering	TTL-CCD metering in multi (256-segment), center-weighted, and spot metering (TTL metering with auto exposure lock)
	Mode	Program AE, aperture priority AE, manual exposure, shutter priority AE, move target function
	Exposure compensation	Manual (+4.0 to -4.0 EV in increments 1/3 EV or 1/2 EV), auto bracketing (-2 EV to +2 EV in increments 1/3 EV or 1/2 EV)
ISO sensitivity (Standard Output Sensitivity)		AUTO, AUTO-HI, ISO200, ISO400, ISO800, ISO1600, ISO3200
White balance		Auto / Multi-P AUTO / Outdoors / Cloudy / Incandescent Lamp 1 / Incandescent Lamp 2 / Fluorescent Lamp / Manual Settings / Detail; white balance Bracketing
Flash		Range (built-in flash):: Approx. 20 cm – 3.0 m (ISO auto) (from front of lens)
Shooting mode		Auto / program shift / aperture priority / shutter priority / manual

			/scene (movie, portrait, sports, landscape, nightscape, skew correction) / “My Settings”
Continuous mode	Number of pictures shot in Continuous (Picture Size: RAW)		Noise Reduction on weak or off: 4 pictures Noise Reduction on strong, or MAX: 3 pictures
	Number of pictures shot in M-Cont Plus (1 set)		HI (1280 × 856): 30 pictures (24 frames/sec.) LO (4288 × 2848): 15 pictures (3 frames/sec.)
Picture quality* ¹			FINE, NORMAL, RAW (DNG) * ²
Image size (pixels)	Photographs	16:9	4288×2416, 3456×1944
		4:3	3776×2832, 3072×2304, 2592×1944, 2048×1536, 1280×960, 640×480
		3:2	4288×2848, 3456×2304
		1:1	2848×2848, 2304×2304
	Movies (24 frames/second)		1280×720, 640×480, 320×240
File size (approx.)	RAW	16:9	NORMAL: 17,800 KB/frame, FINE: 19,515 KB/frame, VGA: 15,587 KB/frame
		4:3	NORMAL: 18,387 KB/frame, FINE: 20,157 KB/frame, VGA: 16,124 KB/frame
		3:2	NORMAL: 20,946 KB/frame, FINE: 22,967 KB/frame, VGA: 18,337 KB/frame
		1:1	NORMAL: 13,991 KB/frame, FINE: 15,333 KB/frame, VGA: 12,273 KB/frame
	L	16:9	NORMAL: 2,222 KB/frame, FINE: 3,816 KB/frame
		4:3	NORMAL: 2,315 KB/frame, FINE: 3,960 KB/frame
		3:2	NORMAL: 2,615 KB/frame, FINE: 4,493 KB/frame
		1:1	NORMAL: 1,761 KB/frame, FINE: 3,009 KB/frame
	M	16:9	NORMAL: 1,475 KB/frame, FINE: 2,509 KB/frame

		4:3	NORMAL: 1,574 KB/frame, FINE: 2,662 KB/frame
		3:2	NORMAL: 1,744 KB/frame, FINE: 2,968 KB/frame
		1:1	NORMAL: 1,186 KB/frame, FINE: 2,003 KB/frame
	5M	4:3	FINE: 2,287 KB/frame
	3M	4:3	FINE: 1,474 KB/frame
	1M	4:3	FINE: 812 KB/frame
	VGA	4:3	FINE: 197 KB/frame
Battery life			Based on CIPA standard DB-90 : approx. 320 shots CIPA ^{*3}
Dimensions (W × H × D)			Camera unit only: 68.7 mm × 57.9 mm × 50.4 mm (according to CIPA guidelines) When mounted on the GXR body: 113.9 mm × 70.2 mm × 55.6 mm (according to CIPA guidelines)
Weight (approx.)			Camera unit only: Approx. 210g When mounted on camera body: Approx. 410g (battery and SD memory card included)
Operating temperature			0 °C to 40 °C
Operating humidity			90% or less
Storage temperature:			−20 °C to 60 °C

- *1 The picture quality modes which can be set vary depending on the image size.
- *2 A JPEG file is also recorded (the JPEG file may be a FINE- or NORMAL-quality file with the same dimensions as the RAW file or a VGA file 640 × 480 pixels in size). RAW files use the standard DNG format promoted by Adobe Systems Incorporated.
- *3 For reference only; actual number of shots varies greatly according to how camera is used. We recommend that you carry spare batteries when in use for extended periods. (Shooting capacity was measured using CIPA-standard parameters. These are only estimates; performance may vary depending on usage conditions.)

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GXR MOUNT A12 - Major Specifications

Item	Specifications
Effective pixels	Approximately 12.30 million

Image sensor		23.6 mm × 15.7 mm CMOS sensor (total pixels: approx. 12.90 million pixels)
Zoom		Digital zoom: 4.0x (3.6x for movies) Auto resize zoom: Approx. 5.9x (VGA)
Focus Mode		Manual focus
Shutter speed	Photographs	1/4000 - 180 s, bulb, time (upper and lower limits vary according to shooting and flash modes) Maximum flash sync shutter speed: 1/180 s
	Movies	1/2000 - 1/30 s
Exposure control	Metering	TTL metering in multi (256-segment), center-weighted, and spot metering (TTL metering with auto exposure lock)
	Mode	Aperture priority AE, manual exposure
	Exposure compensation	Manual (+4.0 to -4.0 EV in increments of 1/3 EV or 1/2 EV), auto bracketing (-2 EV to +2 EV in increments of 1/3 EV or 1/2 EV)
Exposure range (auto mode, center-weighted metering)		Using standard lens (F2.5): 1.2 EV to 13.2 EV (Exposure range for auto ISO calculated using values for ISO 100.)
ISO sensitivity (standard output sensitivity)		Auto, Auto-Hi, ISO-L0, ISO 200, ISO 250, ISO 320, ISO 400, ISO 500, ISO 640, ISO 800, ISO 1000, ISO 1250, ISO 1600, ISO 2000, ISO 2500, ISO 3200
White balance		Auto / Multi-P AUTO / Outdoors / Cloudy / Incandescent Lamp 1 / Incandescent Lamp 2 / Fluorescent Lamp / Manual Settings / Detail; white balance bracketing
Flash	Method	TTL, manual, external auto (external flash GF-1 function)
	Flash mode	Auto, Anti Red-eye, Flash On, Flash Synchro, Manual, Flash Off
	Guide number	9.6 (ISO 200 equivalent), 6.8 (ISO 100 equivalent)
	Illumination angle	24 mm (35 mm film camera equivalent)
	Firing timing	1st/2nd curtain sync
	Other	External flash GF-1 compatibility
Shooting mode		Auto / Program Shift / Aperture Priority / Shutter Priority / Manual / Scene (Movie, Portrait, Sports, Landscape, Nightscape, Skew Correction, Miniaturize, High Contrast B&W, Soft Focus, Cross Process, Toy Camera, Electronic Shutter) / My Settings
Continuous	Number of pictures shot	Noise Reduction on weak or off: 4 pictures

mode	in Continuous (Picture Size: RAW)		Noise Reduction on strong: 3 pictures Noise Reduction on MAX: 3 pictures
	Number of pictures shot in M-Cont Plus (1 set)		HI (1280 × 856): 30 pictures (24 frames/sec.) LO (4288 × 2848): 15 pictures (2.2 frames/sec.)
Compression ratio* ¹			FINE, NORMAL, RAW (DNG)* ²
Image size (pixels)	Photographs	16:9	4288×2416, 3456×1944
		4:3	3776×2832, 3072×2304, 2592×1944, 2048×1536, 1280×960, 640×480
		3:2	4288×2848, 3456×2304
		1:1	2848×2848, 2304×2304
	Movies		1280×720, 640×480, 320×240
File size (approx.)	RAW	16:9	NORMAL: 17,800 KB/frame, FINE: 19,515 KB/frame, VGA: 15,587 KB/frame
		4:3	NORMAL: 18,387 KB/frame, FINE: 20,157 KB/frame, VGA: 16,124 KB/frame
		3:2	NORMAL: 20,946 KB/frame, FINE: 22,967 KB/frame, VGA: 18,337 KB/frame
		1:1	NORMAL: 13,991 KB/frame, FINE: 15,333 KB/frame, VGA: 12,273 KB/frame
	L	16:9	NORMAL: 2,222 KB/frame, FINE: 3,816 KB/frame
		4:3	NORMAL: 2,315 KB/frame, FINE: 3,960 KB/frame
		3:2	NORMAL: 2,615 KB/frame, FINE: 4,493 KB/frame
		1:1	NORMAL: 1,761 KB/frame, FINE: 3,009 KB/frame
	M	16:9	NORMAL: 1,475 KB/frame, FINE: 2,509 KB/frame
		4:3	NORMAL: 1,574 KB/frame, FINE: 2,662 KB/frame
		3:2	NORMAL: 1,744 KB/frame, FINE: 2,968 KB/frame
		1:1	NORMAL: 1,186 KB/frame, FINE: 2,003 KB/frame
	5M	4:3	FINE: 2,287 KB/frame
	3M	4:3	FINE: 1,474 KB/frame

	1M	4:3	FINE: 812 KB/frame
	VGA	4:3	FINE: 197 KB/frame
Battery life			Based on CIPA standard DB-90: approx. 330 shots ^{*3}
Dimensions (W × H × D)			Lens mount unit only: 79.1 mm × 60.9 mm × 40.5 mm (according to CIPA guidelines) When mounted on the GXR body: 120.0 mm × 70.2 mm × 45.7 mm (according to CIPA guidelines) Flange back: 27.8 mm
Weight (approx.)			Lens mount unit only: Approx. 170 g When mounted on camera body: Approx. 370 g (battery and SD memory card included)
Operating temperature			0 °C to 40 °C
Operating humidity			90% or less
Storage temperature			−20 °C to 60 °C

- *1The compression ratios which can be set vary depending on the image size.
- *2A JPEG file is also recorded (the JPEG file may be a FINE- or NORMAL-quality file with the same dimensions as the RAW file or a VGA file 640 × 480 pixels in size). RAW files use the standard DNG format promoted by Adobe Systems Incorporated.
- *3For reference only; actual number of shots varies greatly according to how camera is used. We recommend that you carry spare batteries when in use for extended periods.

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RICOH LENS A16 24-85mm F3.5-5.5 - Major Specifications

Item		Specifications
Effective pixels		Approximately 16.20 million
Image sensor		23.6 mm × 15.7 mm C MOS sensor (total pixels: approx. 16.50 million pixels)
Lens	Focal length	f=15.7 ~ 55.5 mm (35 mm camera equivalent: 24-85 mm)
	Aperture (f-number)	f/3.5 – f/5.5
	Focus range	Approx. 25 cm - infinity (from the front of the lens)
	Construction	11 elements in 9 groups (3 aspherical lens elements with 6 surfaces)
	Filter diameter	55mm

Zoom			Optical zoom: 3.5x Digital zoom: 4.0x (3.6x for movies) Auto resize zoom: Approx. 6.8x (VGA)
Focus Modes			Contrast AF-based multi and spot AF; MF; Snap; infinity (focus lock and AF-assist)
Shutter speed	Photographs		1/3200 - 180 s , bulb, time (upper and lower limits vary according to shooting and flash mode)
	Movies		1/2000 – 1/30 s
Exposure control	Metering		TTL metering in multi (256-segment), center-weighted, and spot metering (TTL metering with auto exposure lock)
	Mode		Program AE, aperture priority AE, manual exposure, shutter priority AE, target-move function
	Exposure compensation		Manual (-4.0 EV to +4.0 EV in increments of 1/3 EV or 1/2 EV), auto bracketing (-2.0 EV to +2.0 EV in increments of 1/3 EV or 1/2 EV)
ISO sensitivity (Standard Output Sensitivity)			AUTO, AUTO-HI, ISO-LO, ISO200, ISO250, ISO320, ISO400, ISO500, ISO640, ISO800, ISO1000, ISO1250, ISO1600, ISO2000, ISO2500, ISO3200
White balance			Auto / Multi-P AUTO / Outdoors / Cloudy / Incandescent Lamp 1 / Incandescent Lamp 2 / Fluorescent Lamp / Manual Settings / Detail; white balance bracketing
Flash (when GF-1 is used)	Method		TTL, manual, external auto
	Flash mode		Anti Red-eye, Flash On, Flash Synchro, Manual
	Firing timing		1st/2nd curtain sync
Shooting mode			Auto / program shift / aperture priority / shutter priority / manual exposure /scene (movie, portrait, sports, landscape, nightscape, skew correction, miniaturize, high contrast B&W, soft focus, cross process, toy camera) / “My Settings”
Continuous mode	Number of pictures shot in Continuous (Picture Size: RAW)		Noise Reduction off: 3 pictures Noise Reduction on: 2 pictures
	Number of pictures shot in M-Cont Plus (1 set)		HI (1280 × 856): 30 pictures (30 frames/sec.) LO (4928 × 3264): 14 pictures (2.5 frames/sec.)
Picture quality ^{*1}			FINE, NORMAL, RAW (DNG) ^{*2}
Image size (pixels)	Photographs	16:9	4928×2768, 3456×1944
		4:3	4352×3264, 3072×2304, 2592×1944, 2048×1536, 1280×960,

			640×480
		3:2	4928×3264, 3456×2304
		1:1	3264×3264, 2304×2304
	Movies		1280×720, 640×480, 320×240
File size (approx.)	RAW	16:9	NORMAL: 23,445 KB/frame, FINE: 25,703 KB/frame, VGA: 20,508 KB/frame, RAW only: 20,332 KB/frame
		4:3	NORMAL: 24,443 KB/frame, FINE: 26,795 KB/frame, VGA: 21,405 KB/frame, RAW only: 21,181 KB/frame
		3:2	NORMAL: 27,603 KB/frame, FINE: 30,265 KB/frame, VGA: 24,139K KB/frame RAW only: 23,937 KB/frame
		1:1	NORMAL: 18,383 KB/frame, FINE: 20,147 KB/frame, VGA: 16,105 KB/frame RAW only: 15,929 KB/frame
	L	16:9	NORMAL: 2,901 KB/frame, FINE: 4,999 KB/frame
		4:3	NORMAL: 3,041 KB/frame, FINE: 5,226 KB/frame
		3:2	NORMAL: 3,415 KB/frame, FINE: 5,889 KB/frame
		1:1	NORMAL: 2,288 KB/frame, FINE: 3,927 KB/frame
	M	16:9	NORMAL: 1,481 KB/frame, FINE: 2,514 KB/frame
		4:3	NORMAL: 1,579 KB/frame, FINE: 2,668 KB/frame
		3:2	NORMAL: 1,749 KB/frame, FINE: 2,974 KB/frame
		1:1	NORMAL: 1,192 KB/frame, FINE: 2,008 KB/frame
	5M	4:3	FINE: 2,293 KB/frame
	3M	4:3	FINE: 1,479 KB/frame
	1M	4:3	FINE: 818 KB/frame
	VGA	4:3	FINE: 202 KB/frame
Battery life			Based on CIPA standard, DB-90: approx. 400 shots*3
Dimensions (W × H × D)			Camera unit only: 71.4 mm × 70.5 mm × 93.3 mm (according to CIPA guidelines) When mounted on the GXR body: 113.9 mm × 74.7 mm × 98.5 mm (according to CIPA guidelines)

Weight (approx.)	Camera unit only : Approx. 350 g When mounted on camera body: Approx. 550 g (battery and SD memory card included)
Operating temperature	0 °C to 40 °C
Operating humidity	90% or less
Storage temperature	−20 °C to 60 °C

- *1The picture quality modes which can be set vary depending on the image size.
- *2A JPEG file is also recorded (the JPEG file may be a FINE- or NORMAL-quality file with the same dimensions as the RAW file or a VGA file 640 × 480 pixels in size). RAW files use the standard DNG format promoted by Adobe Systems Incorporated.
- *3For reference only; actual number of shots varies greatly according to how camera is used. We recommend that you carry spare batteries when in use for extended periods.
(Shooting capacity was measured using CIPA-standard parameters. These are only estimates; performance may vary depending on usage conditions.)